

**CPC****COOPERATIVE PATENT CLASSIFICATION****F42D**

**BLASTING** ( fuses, e.g. fuse cords, [C06C 5/00](#) ; { for obtaining fluid from wells [E21B 43/00](#) ; for mining or quarrying [E21C 37/00](#) ; for making tunnels or galleries [E21D 9/006](#) } ; cartridges [F42B 3/00](#) )

**WARNING**

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

[F42D 7/00](#) covered by [F42D 1/00](#) , [F42D 3/00](#)

**Guide heading:****F42D 1/00****Blasting methods or apparatus, e.g. loading or tamping**

- F42D 1/02 . Arranging blasting cartridges to form an assembly ( adaptation of blasting cartridges therefor [F42B 3/02](#) )
- F42D 1/04 . Arrangements for ignition { ( ignition systems for shaped charge perforators [E21B 43/1185](#) ; ignition devices for seismic energy generators [G01V 1/06](#) ) }
- F42D 1/041 . . { Tools for adapting cartridges for the mounting of detonators ( Cartridges specially adapted for the mounting of detonators [F42B 3/26](#) ) }
- F42D 1/042 . . { Logic explosive circuits, e.g. with explosive diodes }
- F42D 1/043 . . { Connectors for detonating cords and ignition tubes, e.g. Nonel tubes ( mounting of detonators in blasting cartridges [F42B 3/26](#) ) }
- F42D 1/045 . . Arrangements for electric ignition ( dynamo-electric generators [H02K](#) )
- F42D 1/05 . . . . Electric circuits for blasting
- F42D 1/055 . . . . specially adapted for firing multiple charges with a time delay
- F42D 1/06 . . Relative timing of multiple charges ( { [F42D 1/043](#) and } [F42D 1/055](#) take precedence )
- F42D 1/08 . Tamping methods  
Methods for loading boreholes with explosives  
Apparatus therefor
- F42D 1/10 . . Feeding explosives in granular or slurry form  
Feeding explosives by pneumatic or hydraulic pressure
- F42D 1/12 . . Feeding tamping material by pneumatic or hydraulic pressure
- F42D 1/14 . . Hand-operated tamping or loading
- F42D 1/16 . . . . Tamping tools
- F42D 1/18 . . Plugs for boreholes
- F42D 1/20 . . Tamping cartridges, i.e. cartridges containing tamping material ( flexible or deformable blasting cartridges [F42B 3/087](#) )
- F42D 1/22 . . Methods for holding or positioning for blasting cartridges or tamping cartridges
- F42D 1/24 . . characterised by the tamping material

F42D 1/26 . . . Tamping with foaming agents

F42D 1/28 . . . Tamping with gelling agents

**F42D 3/00** **Particular applications of blasting techniques** { explosive welding [B23K 20/08](#) ; explosive bolts or actuators [F42B 3/00](#) D; explosive valves [F16K 13/06](#) ; cutting devices actuated by explosion [B23D 15/14](#) B; pyrotechnical actuators [F15B 15/19](#) ; switching devices actuated by explosion [H01H 39/00](#) }

F42D 3/02 . for demolition of tall structures, e.g. chimney stacks

F42D 3/04 . for rock blasting

F42D 3/06 . for seismic purposes

**F42D 5/00** **Safety arrangements**

F42D 5/02 . Locating undetonated charges

F42D 5/04 . Rendering explosive charges harmless, e.g. destroying ammunition ( { [F42B 39/14](#) and [F42B 39/20](#) take precedence } ; extracting primers, dismantling ammunition [F42B 33/04](#) , [F42B 33/06](#) ; { chemical deactivating of explosives [C06B 21/0091](#) } )  
Rendering detonation of explosive charges harmless

F42D 5/045 . . Detonation-wave absorbing or damping means

F42D 5/05 . . . Blasting mats

F42D 5/055 . . Silencing means for blasting operations

F42D 5/06 . Unloading boreholes

**F42D 99/00** **Subject matter not provided for in other groups in this subclass**